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ABSTRACT

Education reformers are urging that all students meet new and more challenging expectations for learning. A crucial question is whether the education system, including the people who comprise it, have the ability to meet these new demands. This report argues that discussions of capacity should be broadened to include such factors as the relationship between teacher capacity and the abilities of schools and districts to accomplish standards-based, or systemic, reform. The report provides a framework for thinking about capacity and suggests ways that systemic reform strategies could help increase capacity. It also describes findings of a 3-year case study of systemic reform conducted by the Consortium for Policy Research in Education at 12 schools in 6 school districts reputed to be active in reform. The districts are located in three states taking different approaches to reform--California, Michigan, and Vermont. The ways in which two such strategies--professional development and state assessment--were used to enhance educational capacity are described. A list of relevant CPRE publications is included. (Contains 24 references.) (LMI)

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Building Capacity for Education Reform

by Jennifer O'Day, Margaret E. Goertz, and Robert E. Floden

Education reformers are urging that *all* students meet new and more challenging expectations for learning. Teachers, schools, and districts are being called on to drastically change the ways they do their work. But does the education system—including the people who comprise it—have the ability to meet these new demands?

This crucial question is being examined from a variety of angles by those involved with reform in this country. Many debates focus on resources such as money and adequate staffing levels. Others focus on professional development for teachers. However, these debates often fail to consider the many factors that interact to determine educational capacity.

This issue of *CPRE Policy Briefs* argues that discussions of capacity should be broadened to include factors such as the relationships between individual, or teacher, capacity and the abilities of schools, and districts to accomplish standards-based, or systemic, reform. It provides a framework for thinking about capacity and suggests ways that systemic reform strategies could help increase capacity. It also describes how two such strategies—professional development and state assessment—were used to enhance educational capacity in states examined by CPRE.

The brief reports findings of a three-year study of systemic reform conducted by CPRE researchers.* Researchers conducted case studies of 12 schools in 6 school districts reputed to be active in reform. The districts are located in three states taking somewhat different approaches to reform—California, Michigan, and Vermont. The brief also draws from research conducted by others looking at teacher and organizational capacity.

Dimensions of Capacity

Within the context of systemic reform, capacity is the ability of the education system to help all students meet more challenging standards. If the capacity of the education system—or any system—is insufficient for accomplishing a desired goal, capacity may be increased by improving performance of workers (e.g., individual teachers); by adding such resources as personnel, materials, or technology; by restructuring how work is organized; and/or by restructuring how services are delivered.

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Most capacity-building strategies in education today target individual teachers. Our findings and those of other researchers suggest that the traditional model of professional development that focuses primarily on expanding a teacher's repertoire of well-defined classroom practice reflects a limited conception of the dimensions of teacher capacity. And it ignores the other parts of the education system that directly impact a teacher's ability to teach. A broader view, derived from our research, incorporates three themes.

Teacher Capacity Is Multidimensional and Evolving

Discussions of teacher capacity often focus on their procedural knowledge and skills. While many types of knowledge are vital to teachers' roles, other areas of capacity are important as well. We consider four main dimensions of teacher capacity here.

Knowledge. Teachers need knowledge of subject matter, curriculum, students, and general and subject-specific pedagogy in order to help students learn (Carpenter et al., 1989; Shulman, 1986; Wilson & Wineberg, 1988). New student standards call for learners to acquire deeper thinking and problem-solving abilities. Recent studies show that to help students reach these new standards, teachers must have a deeper and more flexible knowledge base than is needed for basic skills approaches or than is developed in traditional preservice or inservice education programs (Ball & McDiarmid, 1990; McDiarmid, Ball & Anderson, 1989).

Skills. While skills and knowledge interact and develop together, researchers have demonstrated a considerable gap between teachers' beliefs about how they should be teaching to satisfy new reforms and their abilities to actually do so (e.g., EEPA, 1990). Educators in our study also noted this gap, whether it was in curriculum development (like developing open-ended problems in mathematics), instructional strategies (like expanding their repertoire of grouping strategies), or assessment.

Dispositions. Enacting reform also requires a disposition to meet new standards for student learning and to make necessary changes in practice (Katz & Raths, 1986; National Center for Research on Teacher Education, 1988). One important disposition involves teachers' attitudes toward subject matter. Attitudes toward students, expectations for student achievement, and beliefs about sources of student success are also critical components of teacher dispositions, particularly in view of reform goals of high performance for all students. But the dispositions most often mentioned as key in our interviews were teachers' attitudes toward change and commitment to student learning.

Views of Self. Studies suggest that the capacity to teach in different ways is connected to views of self, to teachers' beliefs about their role in classroom activity, and to the personas they adopt in the classroom (Floden, in preparation). Also critical are teachers' views of themselves as learners, including what, where, and how they will learn.

These four dimensions of capacity are interdependent and interactive. For example, a strong commitment to improve student learning may lead teachers to seek out the new knowledge and skills they need, thus increasing their capacity. Changes along one dimension of capacity may produce unexpected changes in another. One teacher in our study illustrated this point vividly. While this teacher had joined a workshop to develop her knowledge and skills about teaching writing, the experience also had a dramatic impact on her view of herself as a writer and on her overall development as a professional.

Methodology

This brief is drawn from *Studies of Education Reform: Systemic Reform*, by Margaret E. Goertz, Robert E. Floden, and Jennifer O'Day. Work on this project was supported by the Office of Educational Research and Improvement (OERI), U. S Department of Education, and the Carnegie Foundation. The opinions expressed in this publication are those of the authors and are not necessarily shared by CPRE or its funding institutions.

The study findings are based on case studies of 12 reforming schools located in six school districts with reputations as being active in education reform and in three states that are taking somewhat different approaches to standards-based reform—California, Michigan and Vermont. We conducted structured interviews in 1993-94 with state policymakers, teacher educators, and other providers of professional development, and district and school administrators in each of our study sites. We also interviewed five teachers in each of the twelve schools. These teachers also completed a content coverage/instructional strategy questionnaire for the content areas that were the focus of the study—K-8 mathematics and language arts.

Teacher Capacity Interacts with Organizational Capacity

An individual's ability to accomplish the goals set out by the new standards depends not only on personal capacity but also on the capabilities of his or her colleagues. Among the factors influencing an individual teacher's abilities to teach are the formal and informal networks to which they belong, and the teaching context—or culture—of a school. These dimensions of teacher capacity, in turn, are interdependent with those of the department, school, and district.

Communities of Practice. Teachers' practice is shaped in part by the contexts in which they work and learn, including the communities formed by their relationships with other professionals inside and outside the school. These professional communities may be institutionalized, as in California's League of Middle Schools, or more fluid, as in groups that collaborate on short-term projects, like scoring assessments in Vermont (Darling-Hammond & McLaughlin, 1995). Some important communities of practice exist outside the school, or even outside the school system. Many teachers we spoke to, for example, cited inter-school, cross-district, or national subject matter networks as critical avenues for their development and support.

Teacher Capacity and the School Context. Our data and those of other researchers suggest that it may be teachers' immediate daily context—the school or subunit of the school—that has the greatest influence on their capacity and practice. The vast majority of teachers in our study, for example, reported that they turn primarily to school colleagues for assistance and support. Several pointed out that the ability of individual teachers to use their knowledge and skills is affected by the receptivity and support of colleagues in the school. While some teachers spoke of support from a "critical mass" of colleagues, many others noted that a single inspirational and knowledgeable leader may be instrumental in eventually creating support for change.

Dimensions of Organizational Capacity. Interdependence of organizational and individual capacity implies that reform strategies should seek to build organizational capacity of schools and other educational organizations in addition to promoting professional development of individual teachers. Analysis of data from our reforming schools suggests five dimensions of organizational capacity.

1. Vision and Leadership. Researchers since the 1970s have identified the school or departmental vision, or collective sense of purpose, as an important aspect of successful and improving schools (Edmonds, 1979; Purkey & Smith, 1983; and McLaughlin, 1993). The importance of the school mission—and of leadership in articulating and mobilizing support for it—were recurring themes in our study. The visions focused on curriculum and instruction, improved achievement for all students, and teacher responsibility for student learning.

2. Collective Commitment and Cultural Norms. The most actively reforming schools in our sample displayed a sense of collective commitment and responsibility for students and a set of cultural norms that stressed on-going reflection and improvement. They were also developing and using specific tools and processes to help them evaluate progress toward the learning goals, with the intention that these processes would become institutionalized.

3. Knowledge or Access to Knowledge. Just as individual teachers need knowledge, the collection of teachers at the school or other educators in other units of the system need knowledge to implement a shared vision of reform. Where knowledge does not exist within the organization, it is important for members to know where else to look for what they need.

4. Organizational Structures and Management. Over the last decade, reformers have given considerable attention to "school restructuring" as a way to overcome barriers to educational improvement. But there is disagreement among researchers about how structural changes in schools actually affect what happens in the classroom (Darling-Hammond, 1996; Elmore, 1990; Mohrman & Lawler, 1996; Peterson, McCarthey, & Elmore, 1995; Szabo, forthcoming). Educators in our study did link organizational structure and reform, but they did not see structural changes, in and of themselves, as a goal. Instead, they felt that changes in structure should be explicitly linked to learning goals and any new structures should be changed if they did not improve teaching and learning.

5. Resources. Our interviewees saw time as the most essential resource. Because of fiscal constraints, additional time usually derived from some form of restructuring rather than from additional monies. For example, some schools in our study used block scheduling and electives to create common planning periods for staff; some schools restructured the school week to free one-half day a week for school-wide planning and professional development. Personnel was another key resource, especially in schools with highly diverse student bodies

and large numbers of students with special needs. Teachers also expressed need for material resources, especially instructional materials that reflect emerging standards. For some of our schools, needs included basic materials that many schools take for granted, as well as access to social and health services for students.

Organizational Capacity Can Be Boosted By Outside Ideas

Schools need external input and assistance to move significantly beyond current practice. As McLaughlin (1993) points out, "Strong professional communities, by themselves, are not always a good thing. Shared beliefs can support shared delusions about the merit or function of instructional orthodoxies or entrenched routines (p. 95)."

In each of our reforming sites, we found a rich infusion of ideas from outside the immediate organizational context, ideas that provided inspiration, insights, and alternatives. In some cases, outside ideas focused on process and structure or on generic philosophies about instruction, like the use of portfolios and performance-based assessment or the concept of teacher as coach. In other cases, imported ideas related directly to content and content-based instruction—use of NCTM standards in mathematics, for example, or literature-based reading instruction.

In each site, an individual or group of individuals had served as a conduit for reform ideas, bringing them into the system and linking them to a specific context. In the most actively reforming organizations, this support was ongoing, systematic, and focused on improving student achievement.

Using the Reform Process to Build Capacity

Proponents of systemic education reform have outlined several strategies aimed at increasing student learning. Our research suggests that these strategies themselves may be important avenues for building teacher and organization capacity to achieve goals of standards-based reform.

- *Articulating a Reform Vision.* Articulating and establishing a reform vision can provide a frame for creating and evaluating all aspects of the reform. As noted earlier, vision is a central component of organizational capacity. In addition, the very process of establishing a common vision can itself be a capacity-building endeavor for the public and for educators.

- *Providing Instructional Guidance.* Providing state-level instructional guidance—such as curriculum frameworks, instructional materials, professional development activities, or assessments linked to state standards—can promote capacity in two central ways. It can help teachers, schools, and districts construct curriculum, design instructional strategies, promote professional development, and evaluate progress. And it may provide additional opportunities for professional learning, either through direct professional development activities or through such indirect activities as scoring state performance assessments.

- *Restructuring Governance and Organizational Structures.* Giving teachers and schools discretion over decisions relevant to instruction can enable them to organize in ways that increase their ability to serve student needs, achieve standards, and provide personnel with opportunities for collaboration and learning.

- *Establishing Evaluation and Accountability Mechanisms.* To the extent that accountability structures are consistent with reform goals, they can focus attention on attainment of goals and provide useful information on weaknesses that need to be addressed. In addition, the very processes and mechanisms used for accountability can be designed to promote reflection and facilitate learning on the part of educational personnel.

Of course, however any of these strategies is put into practice, it must always remain targeted at the goal of reform—improved student learning. Further, the strategies should foster learning not only for students, but also for individuals and organizations within and around the system. Examination of two forms of instructional guidance—state assessments and professional development—illustrates these points.

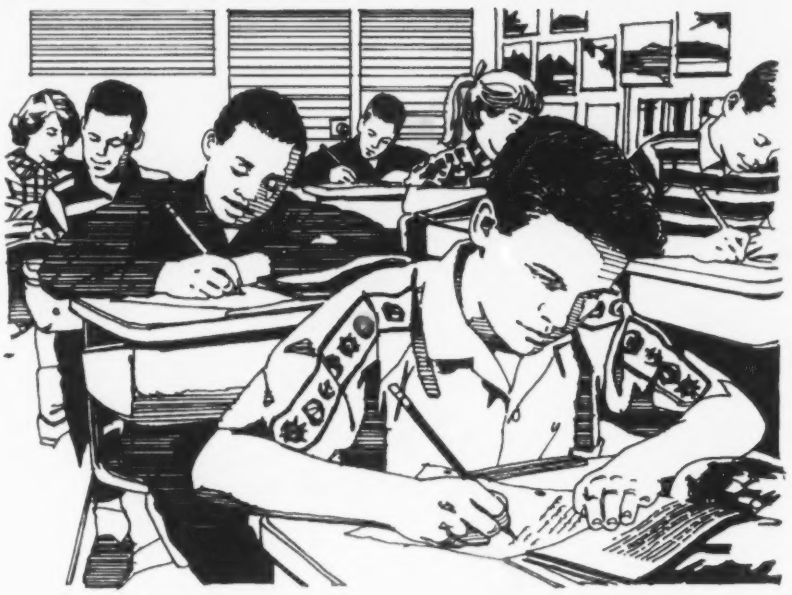
Using State Assessment to Enhance Capacity

The experience of one California school shows how staff can use state assessments to increase capacity at the building level. First, the school used the California Learning Assessment System (CLAS) as a guide for curriculum development. For example, when preparing to administer CLAS, mathematics instructors discovered the need to strengthen instruction in probability and statistics.

Second, the school used CLAS to help develop pedagogical skills of its teachers. Because CLAS incorporated open-ended mathematics problems, eighth-grade teachers received assistance in developing

and using open-ended tasks for their students. Finally, the school used CLAS to help generate a results-orientation focused on student work. Teachers developed a school-based assessment process, modeled on CLAS, that allowed teachers to monitor student progress, familiarized students with the format and content of CLAS, promoted discussion of standards, and provided concrete professional development for performance-based assessment.

Our study of assessment policies in three states shows how test design and test use decisions can increase or limit their effectiveness in building this kind capacity.[1]



Vermont. In Vermont, portfolio assessment was being used as an expression of the statewide vision of reform, putting results at the forefront of the reform effort, while leaving teachers and schools to decide how to get there. For the fourth- and eighth-grade teachers whose students were compiling portfolios, it was an opportunity to learn about expected outcomes in math and writing. Portfolios and related professional development activities seem to have served as a means of increasing teacher knowledge and engendering teacher support for the direction of reforms. In addition, use of portfolio assessment in teacher certification and program approval was expected to help new teachers gain knowledge and experience developing portfolios during their preservice training.

On the other hand, some policies and practices surrounding the assessment have mitigated its effectiveness as a means for building individual or organizational capacity. Some of the teachers involved, for example, said they received little assistance in making links between assessment and instruction, partly because portfolio assessment is new and reliability of scoring has been elusive. Probably for the same reasons, teachers who scored portfolios apparently made little or no use of resulting information about their students' performance. Teachers also complained that time required for scoring portfolios took away from work on instruction. The usefulness of portfolios in building organizational capacity of schools was also hindered by the fact that they were required in only two grades.

Michigan. State assessment in Michigan also expressed the state vision for reform. Indeed, with neither curriculum frameworks nor an articulated vision statement at the time of our study, the Michigan Education Assessment Program (MEAP) was the main vehicle for communicating goals in reading and mathematics, the two curricular areas we investigated in this state. While the objectives on which MEAP is based have long reflected a meaning-centered approach to reading and have also been revised to more closely reflect NCTM standards in math, respondents in our study did not view these objectives either as a broad-based vision statement or as a curriculum framework.

Michigan has also instituted a number of policies with the potential to strengthen the impact of the assessment on organizational capacity. In curriculum development, the Essential Goals and Objectives are the basis for the state's Model Core Curriculum Outcomes, which in turn are to serve as the basis for district core curriculum.

In the area of school improvement, state law requires each school to develop school improvement plans and write improvement goals focused on student outcomes. Because MEAP scores cover several core curriculum areas and must be publicly reported, schools have tended to use them to set some of their improvement goals. Thus the state

[1]It should be noted that these examples reflect the situation in our sites in 1993-94, the time of our data collection. Conditions and policies may have changed since then.

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assessment provides useful information to schools, assisting them in targeting areas for improvement. One can view the assessment as contributing to school capacity by serving as a resource for school personnel. It has also been the focus of some staff development to familiarize teachers with the content of the revised goals and objectives.

Yet the very nature of MEAP—which consists almost entirely of multiple choice questions—limits its usefulness as a tool for capacity building. Thus, while the content assessed by MEAP is consistent with NCTM standards, the assessment format is inadequate to fully reflect the standards or the approach to mathematics that underlies them.

California. Though short-lived, CLAS helped build teacher capacity. Its content and format guided teachers toward new ways of looking at content and it provided a new basis for thinking about instruction. But while some teachers had an opportunity to become familiar with CLAS and use it as a learning tool, the vast majority of school personnel were not so fortunate. Instead, an emphasis on secrecy to protect reliability, coupled with management errors, meant that most teachers and districts remained unfamiliar with the actual content or format of the assessment even up to the time it was administered.

The public was even more in the dark. Opponents of the reform used this situation to rally vocal opposition, which the governor then used to kill the assessment. CLAS, even in its developmental stages, provided a potentially powerful tool for teaching the public and educators about concrete goals of reforms and the type of learning and performance students are being asked to do. Failure of the California Department of Education to focus on this use of CLAS left both the assessment and the reforms vulnerable.

One lesson from the experience of California and Vermont is that use of state assessment as an instrument of accountability may conflict with its use as an instrument for teacher and system learning. Accountability requires a high degree of reliability. In Vermont, with its limited time and resources, this meant limited attention to using the assessment to improve instruction. In California, it engendered a level of secrecy that ran counter to building either capacity or support among a broader spectrum of the public or school personnel. But these shortcomings were not foregone conclusions. As our example of the California school shows, a consistent and strategic emphasis on capacity building could lead to alternative scenarios.

Using Professional Development to Build Capacity

For the most part, state- and district-sponsored staff development activities in our study sites, as in most places, were short-term, broad-based efforts to increase teachers' awareness of reforms, their ability to administer or score assessments, or their basic familiarity with new curricula.

Findings of Systemic Reform Study Reported

Studies of Education Reform: Systemic Reform (July 1995) reports results of a three-year study conducted by the Consortium For Policy Research in Education and the National Center for Research on Teacher Learning. The study team reviewed the current literature on systemic reform, commissioned four papers about the preparation and professional development of teachers, and conducted case studies of 12 reforming schools in California, Michigan, and Vermont. Findings are documented in a three-volume technical report.

Volume I: Findings and Conclusions summarizes the literature review and commissioned papers, the study methodology, and the education reform strategies and policies in the three study states. It identifies some common lessons for policymakers who take a standards-based approach to instructional improvement. (168 pp. $17.50)

Volume II: Case Studies contains the 12 case studies. It includes detailed information on state policies, and describes and analyzes reform efforts in the schools and districts studied. (148 pp. $15.00)

Volume III: Technical Appendix—Research Design and Methodology contains a description of the study methodology and copies of the interview protocols and teacher surveys used in the data collection. (102 pp. $10.00)

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These awareness-level activities seemed to fall short of needed capacity building in two respects. First, they were generally too short and lacked the follow-up necessary to develop the deep content and pedagogical knowledge necessary to meet new instructional goals. Second, they did not appear to be building an infrastructure to promote and sustain teacher learning and instructional improvement over the long term.

However, we also found evidence of more multi-faceted and strategic approaches to professional development. The most extensive of these were the state-sponsored Subject Matter Projects (SMPs) in California. Administered through the president's office of the University of California, these independent, teacher-led efforts have become a core element of that state's reforms. At the heart of the SMPs are multi-week summer workshops focused on deepening teachers' content knowledge, developing pedagogical strategies linked to that content, and fostering professional habits of reflection. They also provide follow-up support for teachers throughout the year.

Our sites also evidenced strategies to strengthen the connection between professional development of teachers and organizational development and school change. In California, for example, grade-level and other school networks encouraged teachers to participate in SMPs as part of school change efforts. In Michigan, Professional Development Schools (PDSs) brought university professors and school teachers together for on-going collaboration aimed at instructional improvement and forged links to preservice teacher preparation.

Professional development strategies such as these have the potential to address long-term capacity needs of the system with respect to standards-based reform. SMPs are examples of teacher professional development that build leadership and deep content knowledge, both through summer workshops and networks and through school-year staff development. School networks in California and the PDS strategy in Michigan are examples of school-based efforts to link such staff development to improvement efforts at the school site and to preservice education.

The question remains how the system can use knowledgeable teacher professionals or reform-minded schools to create an infrastructure that fosters long-term capacity building. One of the California districts we studied developed such a strategy, best seen in its elementary science program. The strategy was based on three types of professional development: awareness initiatives designed for broad dissemination as a catalyst for change; more intensive, on-going efforts focused on content and instructional strategies in curriculum, assessment, and special problem areas; and leadership development efforts to foster the capacity of individuals to play leading roles in the other two initiatives.

At the core of the strategy were two dozen teacher leaders, who for the past four to five years had attended multi-week summer institutes focusing on content. During the school year, the core group shifted its emphasis to content-based pedagogy and conducted site-based development activities in all of the district's elementary schools. In addition, the group met on a regular basis to discuss its work and to participate in other leadership development activities with science-rich institutions. The result is that these teacher leaders

formed the core for science education in their district.

On a broader level, at least one teacher from every elementary school in the district took part in University of California-sponsored summer institutes and follow-up activities during the year. This group helped design and present three professional development days each year devoted to the new science framework and to instructional materials. These teachers also led efforts to develop science curriculum in their schools. On the broadest level, all elementary teachers were participating in in-service programs focusing on science and providing awareness-level professional development geared toward motivating broad-based change.

Considered as a whole, this strategy incorporates individual, site-based, and cross-site approaches to build individual and collective knowledge. It fosters collaboration not only among educators but between teachers and practicing scientists. It extends resources by building on-going partnerships with science-related institutions. Finally, it responds to needs for capacity building at all levels of the system: the district builds a core of knowledgeable practition-

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ers in science who can assist in developing curriculum, materials, and staff; individual schools acquire at least one person with deep content knowledge to help implement science reforms; and individual teachers are offered a range of on-going professional development activities that recognize differing interests and levels of commitment.

This district's strategy is of course only one of many possible approaches to linking teacher professional development and systemic capacity building. But it provides insights into the possibilities when capacity building is the goal and there is leadership and ability to broker and facilitate learning opportunities.

Continuing Challenges

As states, districts, and schools use elements of standards-based reform to enhance education capacity, our research suggests that they will face several continuing challenges such as those described below.

Placing Learning at the Center

The most critical challenge is to place learning at the center of all reform efforts—not just improved learning for students, but also for the system as a whole and for those who work in it. For if the adults are not themselves learners, and if the system does not continually assess and learn from practice, then there appears little hope of significantly improving opportunities for all our youth to achieve to the new standards.

For this to happen, however, requires a fundamental change in orientation from traditional "top-down" mandates to one in which all work is designed and evaluated with an express goal of enhancing capacity to improve student learning. Organizations, such as universities, museums, professional associations, and professional development providers, can play a major role in accomplishing this goal. But their impact on improved learning for all students will depend on what happens within the system itself. Our data suggest that what is needed is a coherent and strategic approach to capacity building, one that takes into account the needs and goals of the individual learner, school, and district, and state, not just for the immediate initiative, but for the long term. Only in this way can systemic reform's promise of "top-down support for bottom up reform" be fully realized.

Allocating Needed Resources

Resources are obviously a critical aspect of organizational capacity. Implementing standards-based reform under current fiscal constraints will require creativity and thought similar to that observed in our study sites.

A key target in addressing resource needs will be expanding available time to school personnel—time for teachers to collaborate in planning and assessing their instruction; time for teachers and administrators to participate in learning opportunities outside the school; and time for reforms to mature without falling prey to policymakers' readiness to halt reform if student test scores do not rise immediately. As additional or reallocated funds become available, using them to provide time for professional development would seem a wise investment. Allowing schools and districts to reconfigure schedules to provide time for collaboration and learning is possibly the most cost-effective means of providing at least some of the additional time required.

Another critical way to extend resources and build long-term support for reforms is through partnerships with professional associations, mathematics and science centers, universities, and museums. Utilization of such resources and development of ongoing partnerships can be effective ways of extending material and intellectual resources available for school reform and a means of developing the base of support needed to maintain reform direction over the long haul.

Managing Multiple Influences

Teachers may learn about education reform through a wide variety of experiences: involvement in subject-area workshops, networks and curriculum design; school restructuring efforts; grade-level networks; national projects; scoring student essays or math portfolios; bilingual and multicultural education efforts; and district-sponsored workshops.

While potentially beneficial to teachers, multiple professional development opportunities pose several challenges to schools and policymakers. First, when teachers are involved in many different activities, it is sometimes difficult to link them into a coherent whole in the classroom or at the school site. Second, on the district level, one school may be focused on science, another on early literacy, and another on mathematics. What is the effect when students move from one school to another or move on to the middle schools?

California has tried to address these two potential problems by imbedding a consistent view of

teaching and learning in all of its reform efforts—frameworks, grade-level documents, and teacher and school networks. Teachers report that this consistent vision helps. However, our data suggest that a more proactive strategy, particularly at the district level, is required to overcome fragmentation inherent in the variety of opportunities and providers. Finally, there is the challenge of quality control. How can the education community ensure that all these learning experiences are of high quality?

Attending to Public Capacity

Differing approaches to public involvement in and understanding of reforms can have a critical impact on success of the reform agenda. The demise of the CLAS assessment in California provides a vivid example of what can happen if the public is left out of the reform equation. How the public is involved and to what end also seem important. Often in reform literature the need for public involvement is expressed simply in terms of garnering political and public support (i.e., getting "buy-in") without attending to the substantial public learning inherent in such an endeavor. Not only do school people need to increase their knowledge and skills and sometimes alter dispositions and self-perceptions; so must parents and the general public. This implies that as the school system's orientation changes to one of fostering learning for all concerned, educators must take the same approach to the general public.

Public forums of the sort organized by Vermont educators, or the "visioning" committees established by one of our districts, may be one way of gaining input while educating the public about direction and goals of reforms. Media may be another. However, according to the Public Agenda Foundation (Johnson & Immerwahr, 1994), parents ultimately listen to their children's teachers. This suggests that the brunt of public (or at least parent) learning may rest primarily with the school. Another form of capacity needed by teachers and schools, therefore, may be the ability to talk to and involve parents in improvement efforts.

Conclusion

Capacity building is a critical element in education reform. Although state policy makers acknowledge this general point, policies are often too narrow, focusing on changes in individual teachers' knowledge rather than working to enhance organizational capacity across a range of dimensions. Moreover, common practices in professional development bring educators to understand that they are being encouraged to help their students become articulate, flexible problem solvers, but they may be unable to make the corresponding changes in practice. Our study of reforming districts in three states identified a broader range of options that deserve consideration as policy options.

As policymakers design policies to enhance the capacity of individual educators, they must pay attention to the multiple dimensions of teacher capacity and to the role of the school and other communities of practice in teacher learning and educational improvement. This brief has provided examples of how states, school districts and schools can make strategic use of policies like assessment and professional development to build the capacity of teachers and their schools. These examples provide insights into the alternatives available to policymakers when capacity-building is the goal, and where there is leadership and ability to facilitate learning opportunities.

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More on the Subject from CPRE

Helping Teachers Teach Well: Transforming Professional Development
Thomas Corcoran
(RB-16-June 1995)

In virtually every state in the country reform efforts are dramatically increasing expectations for students, and consequently for teachers. To make these changes, teachers need to deepen their content knowledge and learn new methods of teaching. This brief reviews what is known about professional development—where it is now, and where it needs to be and discusses organization, costs, and effects on practice. It also suggests some principles to guide professional development and offers a framework for designing and assessing policies and programs.

Tracking Student Achievement in Science and Math: The Promise of State Assessment Programs
(No. RB-17-June 1995)

This brief examines the capacity of state assessment systems to track the effect of the Statewide Systemic Initiatives (SSI) Program (funded by the National Science Foundation) on student performance in mathematics and science. It also identifies some of the major issues state policymakers are facing as they attempt to re-align their state assessment systems to meet the changing goals for education.

Single copies of *CPRE Policy Briefs* are available at no charge from CPRE, Carriage House at Eagleton, 86 Clifton Avenue, New Brunswick, NJ 08901-1568.

Recent Reports and Briefs

The Outlook for School Revenue in the Next Five Years
Steven D. Gold
May 1995 (RR-034), 28 pp., $10.00
This paper examines the outlook for school finance over the next five years. The environment for increases in real school revenue per pupil in the rest of the 1990s will not be favorable. The most significant problem is likely to be reductions in federal aid to states. States will respond to decreases in federal aid for social and health programs by trimming increases in state education aid. Other negative factors will be continued strong competition for state tax dollars from corrections and health programs and conservative state tax policy. A dynamic economy will benefit schools in selected states, but the overall rate of economic growth is likely to be moderate at best. Although some states will shift reliance away from property taxes, most states will not do so.

Ruling Out Rules: The Evolution of Deregulation in State Education Policy
Susan H. Fuhrman and Richard F. Elmore
March 1995 (RR-033), 34 pp., $10.00

This paper examines the evolution of deregulation from limited waiver programs to charter programs and new performance-based accountability systems that include broad-scale deregulation. Early deregulation programs were so limited in design that they had very modest results, but policymakers are finding expanded efforts very difficult to achieve. Many of the same political forces and habits of practice that limited early efforts continue to pose barriers to deregulation. Underlying the barriers is an historic, continuing uncertainty about the state role and about how states should relate to districts of varying types.

School-Based Management: Promise and Process
Priscilla Wohlstetter and Susan Albers Mohrman
(No. FB-05-11/94)

This *Finance Brief* summarizes research that investigated how school-based management can be implemented so that it is more than just a catch-phrase. It is not possible for SBM to succeed simply by giving schools more power over such things as budgets, personnel and curriculum. In addition to power, schools need three other commodities found to be essential for making good and productive decisions: *knowledge* of the organization; *information* about student performance and comparisons with other schools, about whether parents and community leaders are satisfied with the school, and about the resources available; and *rewards* to acknowledge the extra effort SBM requires as well as to recognize improvements.

Reinventing Teacher Compensation Systems
Carolyn Kelley & Allan Odden
(No. FB-06-September 1995)

This brief provides a short history of changes in teacher compensation over the last century and a discussion of key organizational and educational changes today that could be reinforced by a new teacher compensation structure. It also suggests some new teacher pay elements and a set of principles which could be used when redesigning how teachers are paid.

Reforming Science, Mathematics, and Technology Education: NSF's State Systemic Initiatives
(RB-15-May 1995)
In order to assess the results of the Statewide Systemic Initiatives (SSI) Program funded by the National Science Foundation (NSF), NSF contracted with SRI International and its partners, to conduct a national evaluation of the SSI program. This brief presents some initial observations about the SSIs based on the first two years of the evaluation study, and discusses some of the issues state and local leaders are facing as they attempt to transform science, mathematics, and technology education.

Challenges in Systemic Education Reform
Susan H. Fuhrman
(No. RB-14-9/94)

Reform is generating a great deal of excitement and energy and is associated with many positive classroom changes. But policymakers and educators are also facing a number of challenges in designing and implementing the new policies. This issue of *CPRE Policy Briefs* examines these challenges as well as strategies states are using to address them. It draws from CPRE's studies of reform in 19 states and from discussions with staff of policymaker associations involved in providing assistance to states.

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- To conduct research that will lead to *more coherence of state and local policies* that promote student learning.
- To study how policies *respond to diversity* in the needs of students, schools, postsecondary institutions, and states; and to learn more about the *connections between student outcomes and resource patterns* in schools and postsecondary academic departments.

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